

### **REMARKS**

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 47, 51-58, 63, 65 and 66 are pending in the application, with claims 47 and 63 being independent. Applicant cancels claims 48-50 and 64 without prejudice, waiver, or disclaimer of the subject matter. Applicant amends claims 47 and 63 to further clarify features of the claimed subject matter. The original specification supports these claim amendments at least at page 7, lines 24-30. Therefore, claims 47, 51-58, 63, 65 and 66 are presented and directed to subject matter of the original disclosure.

#### ***Claim Rejections Under 35 U.S.C. §112, First Paragraph***

Claims 47-58 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Applicant amends the claims to clarify the subject matter and support may be found at least at page 7, lines 24-30. Support can also be in U.S. Patent No. 6,337,168 patent at Col. 8, lines 37-44, which has been expressly incorporated by reference in its entirety into Applicant's specification. Thus, no new matter has been introduced. Applicant respectfully submits that these claims now comply with 35 U.S.C. §112, first paragraph and as a result the rejections are now moot. Applicant respectfully requests that the §112 rejections be withdrawn.

**Claim Rejections Under 35 U.S.C. §112, Second Paragraph**

Claims 47-58 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant amends the claims to clarify the subject matter and support may be found at least at page 7, lines 24-30.

Applicant also submits that claims 63, 65 and 66 comply with §112, second paragraph. Support for the first and second toners of first and second colors can be found at least at page 1, lines 3-9, page 4, lines 25-29, and page 7, lines 24-30. These portions of Applicant's specification support multiple toners with the same chargeability, claimed, for example, in claim 63.

Thus, no new matter has been introduced. Applicant respectfully submits that these claims now comply with §112, second paragraph and respectfully requests that the §112 rejections be withdrawn.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 103**

**Claims 47-58 and 63-66** stand rejected under 35 U.S.C. § 103(a) as being obvious over European Patent Application 0 176 630 to Uytterhoeven et al. (hereinafter "Uytterhoeven") in view of U.S. Patent No. 3,325,409 to Whitbread, further in view of "Handbook of Imaging Materials" to Diamond (pg. 233), further in view of U.S. Patent No. 3,078,231 to Metcalfe et al. (hereinafter "Metcalfe"),

further in view of U.S. Patent No. 3,438,904 to Wagner, and further in view of U.S. Patent No. 5,116,705 to Materazzi (collectively, hereinafter “The Cited References”). Applicant respectfully traverses the rejection.

#### **Independent Claim 47**

Without conceding the propriety of the state rejection, and only to advance the prosecution of this application, Applicant amends **independent claim 47** to further clarify features of the claimed subject matter. Amended claim 47 now recites an electrostatic imaging process comprising (emphasis added):

(A) forming a charged latent electrostatic image on a photo conductive surface; and

(B) applying to the photoconductive surface toner particles from a liquid toner, thereby forming an image, wherein the liquid toner comprises:

(a) an insulating non-polar carrier liquid;

(b) at least one charge director; and

(c) toner particles dispersed in the carrier liquid and the at least one charge director, the particles comprising:

(i) a core material comprising a pigmented polymer suitable for use as a toner material in an electrostatic image development application, which is unchargeable by the at least one charge director or which is weakly chargeable by the at least one charge director;

(ii) a coating of at least one ionomer component in an amount effective to impart an enhanced chargeability to the toner particles to an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application;

(iii) wherein the coating of the at least one ionomer added to the toner particles **results in a**

same chargeability for colors of the pigmented polymer; and

(iv) wherein the coating of the at least one ionomer increases the chargeability of the toner particles to **about** 103 pmho/cm.

Applicant respectfully submits that no such process is disclosed by The Cited References.

*The Cited References fail to disclose, teach or suggest a process involving a toner particle wherein the chargeability of the toner particles is about 103 pmho/cm*

Uytterhoeven describes providing an electrophoretic liquid developer containing toner particles with particularly stable particle charge in time. *See, page 1.*

Whitbread describes a liquid dispersible toner suited to the reproduction of line images. *See, Col. 1, lines 10-12.* Further, Whitbread describes toner particles being of uniform polarity capable of producing high contrast substantially black image deposits, substantially free from pigmentation in non-image or background areas, and scuff resistant when dried. *See, Col. 1, lines 38-42.*

Diamond describes a charge control agents (charge directors) that are added to a toner to impart charge on the toner particles. *See, page 233.*

Metcalf describes substances which can serve as control agents under special operating conditions, and allow still further control of the development

giving greater selection of the control agents. *See*, Col. 1, lines 34-37. Further, Metcalfe describes that the pigment particle may not have the particular charge desired for developmental purposes, and the reason for using a control agent is to give the particle the necessary and required charge. *See*, Col. 1, lines 50-53.

Wagner describes providing a coating method for developing negative electrostatic latent images which comprises dispersing pigment particles in a high resistivity liquid carrier material and then adding to the dispersion a sufficient amount of metal ions to visually improve the quality of the finally developed image when the dispersion is applied to a surface having a negative electrostatic image thereon. *See*, Col. 1, lines 49- 56.

Materazzi describes a liquid color toner composition containing a resin binder and a plasticizer which is compatible with the binder. *See*, Abstract. Further, Materazzi describes toner particles with a conductance between 3.53-5.74 pmho/cm. *See*, for example, Tables 3 and 6.

In contrast, Applicant's amended claim 47 recites, "*(iii) wherein the coating of the at least one ionomer added to the toner particles results in a same chargeability for colors of the pigmented polymer; and (iv) wherein the coating of the at least one ionomer increases the chargeability of the toner particles to about 103 pmho/cm.*" Applicant respectfully submits that the claimed chargeability of 103 pmho/cm is not disclosed, taught, or suggested by The Cited References.

Therefore, The Cited References, whether taken alone or in combination (assuming for the sake of argument that they can be combined), at most suggest a

chargeability between about 3.5 to about 5.5. Applicant's claimed chargeability of 103 pmho/cm is between 19-30 times greater than the chargeability disclosed, suggested or taught by The Cited References. Thus, this difference in chargeability is non-obvious, and Applicant respectfully requests the § 103 rejection of this claim be withdrawn.

**Dependent claims 51-58** depend from independent claim 47 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the § 103 rejections of these claims be withdrawn.

**The Cited References are not combinable because Wagner explicitly teaches away from Metcalfe**

The Office has failed to establish a *prima facie* case of obviousness because Wagner explicitly teaches away from Metcalfe. The Office cites Metcalfe for disclosing "that pigmented particles do not necessarily have the necessary and required charge for a desired development process and thus charge control agents (i.e., compounds which adjust the charge of the pigment in the carrier liquid) are coated onto the pigment to give the requisite charge." See, page 8 of the Office Action mailed September 5, 2007. Thus, the Office seeks to combine aspects of the charge control agents as taught by Metcalfe to form The Cited References. However, Wagner explicitly teaches that the charge control agents of Metcalfe

differ in form and function from the invention of Wagner. For example, the following excerpt is reproduced to assist the Office in appreciating Wagner.

**Wagner, column 5, lines 32-43 (emphasis added)**

The image quality enhancing agents employed in the novel toner compositions of the present invention **are to be distinguished in function and result from the charge control agents employed in the electrostatic developer compositions disclosed in the United States Patents Nos. 2,907,674 and 3,078,231 to K. A. Metcalfe et al.** The latter are alkyl, epoxy, cresylic, phenolic, and styrene modified epoxy resins, synthetic rubbers, polystyrene and linseed oil with which the pigment particles are coated and which only by modifying the value or sign of the charge on the particles and in this sense are analogous to the coating pastes employed in this invention.

Wagner continues to distinguish the charge control agents of Metcalfe, but then states the drier compounds may be combined with Wagner's invention. This excerpt is reproduced below (emphasis added):

**Wagner, column 5, lines 57-62**

While the **naphthenate compounds employed as a drier by Metcalfe et al.** in negative acting developer compositions (i.e. developer compositions used to develop positive charge electrostatic images), can also be used as an image quality enhancing agent of the present invention, the mechanism involved is entirely different.

The above-quoted passages demonstrate that Wagner specifically contemplated which aspects of Metcalfe were combinable with Wagner's invention. The naphthenate compounds of Metcalfe may be combinable with

Wagner, however, the charge control agents of Metcalfe are not combinable with Wagner. Thus, Wagner explicitly teaches away from combining the charge control agents of Metcalfe with Wagner. Accordingly, the combination of Wagner and Metcalfe is improper, and Applicant respectfully requests the § 103 rejection of these claims be withdrawn.

### **Independent claim 63**

Without conceding the propriety of the rejection and in the interest of expediting allowance of the application, **independent claim 63** has been amended as proposed during the interview to clarify further features of the subject matter. Amended claim 63 now recites liquid toners for an electrostatic imaging, comprising (emphasis added):

- (A) at least first and second liquid toners of first and second colors, wherein the first and the second liquid toners are configured with pigmented polymers having differently colored pigments and wherein each of the first and the second liquid toners comprises:
  - (a) an insulating non-polar carrier liquid;
  - (b) at least one charge director; and
  - (c) toner particles dispersed in the carrier liquid and the at least one charge director, the particles comprising:
    - (i) a core material comprising a pigmented polymer suitable for use as a toner material in an electrostatic image development application, which is unchargeable by the at least one charge director or which is weakly chargeable by the at least one charge director;
    - (ii) a coating of at least one ionomer component in an amount effective to impart an enhanced chargeability to the toner particles to



an extent that the particles can be used to develop a latent electrostatic image in the electrostatic image development application;

(iii) wherein the coating of the at least one ionomer added to toner particles in each of the first and the second liquid toners is sufficient to result in a **same** chargeability for toner particles within the first and the second liquid toners; and

(iv) wherein the coating of the at least one ionomer increases the chargeability of the toner particle to **about** 103 pmho/cm.

Applicant respectfully submits that no such liquid toners are disclosed, taught or suggested by the combination of The Cited References.

**The Cited References fail to disclose, teach or suggest a process involving a toner particle wherein the chargeability of the toner particles is about 103 pmho/cm**

With regard to independent claim 63, and as mentioned above with respect to claim 47, The Cited References fail to disclose, teach or suggest “(iii) *wherein the coating of the at least one ionomer added to toner particles in each of the first and the second liquid toners is sufficient to result in the same chargeability for toner particles within the first and the second liquid toners; and (iv) wherein the coating of the at least one ionomer increases the chargeability of the toner particle to about 103 pmho/cm.*” Thus, independent claim 63 is allowable over the cited references for at least those reasons discussed above with respect to claim 47. Accordingly, Applicant respectfully submits that claim 63 is not obvious over

The Cited References, and Applicant respectfully requests the § 103 rejection of this claim be withdrawn.

**Dependent claims 65 and 66** depend from independent claim 63 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant respectfully requests the §103 rejections of these claims be withdrawn.

Applicant respectfully submits that the cited references do not render the claimed subject matter obvious and that the claimed subject matter, therefore, patentably distinguishes over the cited references. For all of these reasons, Applicant respectfully requests the §103(a) rejection of these claims should be withdrawn.

**Conclusion**

Claims 47, 51-58, 63, 65 and 66 are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

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By: K. Kuhnert  
Kristina Kuhnert  
Reg. No. 62,665  
509.324.9256, ext. 217

Shirley Lee Anderson  
Reg. No. 57,763  
509.324.9256 ext. 258